



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,672	10/23/2003	Gregory A. James	130109.507	9651

500 7590 02/20/2007
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

EXAMINER

ECHELMEYER, ALIX ELIZABETH

ART UNIT	PAPER NUMBER
----------	--------------

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/693,672

Applicant(s)

JAMES ET AL.

Examiner

Alix Elizabeth Echelmeyer

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 2,3 and 15-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3-25-04, 3-31-05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-14, in the reply filed on November 8, 2006 is acknowledged.
2. The following species were also elected:
 - Of claims 1-3, claim 4 is elected.
 - Of claims 6 and 8, a thermoplastic barrier film is elected.
 - Of claims 7 and 9, polyimide is elected.
3. Claims 2, 3 and 15-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected groups and species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 8, 2006.
4. Claims 1 and 4-14 are pending and are rejected for the reasons given below.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1745

6. Claims 1, 4-6, 8 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Bonk et al. (US Pre-grant Publication 2001/0001052).

Bonk et al. teach a sealed fuel cell stack (abstract). The sealing is directed to the polymer electrolyte membrane assembly, consisting of a membrane having an anode catalyst on one side and a cathode catalyst on the other ([0019]). There are also anode and cathode substrates and water transport plates corresponding to the fluid diffusion layers of the instant invention ([0041]-[0043]). On the outer periphery of the fluid diffusion layers are impregnated seals ([0042], [0043]).

As seen in Figure 2, a barrier film (46, 42) is placed between the membrane (48) and the impregnated seals (52, 36) ([0041]-[0045]).

The seals of Bonk et al. are leak-proof ([0053]).

Regarding claim 4, the PEM assembly, including the barrier film, of Bonk et al. is heated to bond the components together ([0052]). In order for bonding between the seals to occur, diffusion or impregnation between the various seals would occur during the heating and pressing steps.

Regarding claim 5, the seals of Bonk et al. may be made of silicone rubber or foam ([0045], [0058])

As for claims 6 and 8, Bonk et al. teach that the barrier films are made of a thermoplastic material ([0045]).

Regarding claims 10 and 11, Bonk et al. teach anode and cathode fluid diffusion layers (Figure 2 Ref. Num. 32, 34).

Art Unit: 1745

Concerning claims 12 and 13, the seals, including the barrier layers, of Bonk et al. encompass the periphery the substrates (Figure 3, [0037], [0046]).

With regard to claim 14, it can be seen in Figure 2 that the seals (62, 53, 46, 42, 36, 60) extend beyond the membrane (48) and fluid diffusion layers (32, 34).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonk et al. in view of Kaye (US Pre-Grant Publication 2005/0014059).

The teachings of Bonk et al. as discussed above are incorporated herein.

Bonk et al. teach a thermoplastic barrier layer but fail to teach that it is a polyimide material.

Kaye teaches a fuel cell having a membrane electrode assembly disposed between two bipolar plates, the plates having a gasket around their perimeter (abstract; [0026]).

Kaye further teaches that polyimide may be used for the gasket material since it has high temperature and chemical resistance ([0166]).

Art Unit: 1745

It would have been desirable to use the polyimide gasket of Kaye to seal the membrane electrode assembly of Bonk et al. since polyimide has high temperature and chemical resistance.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polyimide gasket of Kaye to seal the membrane electrode assembly of Bonk et al. since polyimide has high temperature and chemical resistance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1745

aee


SUSY TSANG-FOSTER
PRIMARY EXAMINER